UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,717	10/30/2003	Paul G. D'Arcy	D'Arcy 16-2-7-8-1	8360

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EXAMINER
ABRAHAM, ESAW T

ART UNIT	PAPER NUMBER
2133	

DATE MAILED: 05/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
	10/697,717	D'ARCY ET AL.
Office Action Summary	Examiner	Art Unit	
	Esaw T. Abraham	2133	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>30 October 2003</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-16</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-16</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>26 November 2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DEATAILED ACTION

1.   Claims **1-16** are presented for examination.

Specification

2.   a) The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

b) The title "checksum calculator" is so broad as to not provide any description of the inventive concept to which the claims are directed. A new title is required that is clearly indicative of the invention to which the claims are directed (6.11).

Claim objections

3.   Claims 1, 9-11 and 16 are objected to because of the following informalities:

a) Claim 1 recites "an other " instead of "another" (see line 19).

b) Claim 1 recites "N integer " instead of ---N is an integer--- (see line 3).

c) Claim 1 recites "the lowest level " instead of ---a lowest level--- (see line 8).

d) Claim 9 recites "adapted to " instead of ---configured to--- (see lines 3,6,8 and 10).

e) Claim 9 recites "N integer" instead of ---N is an integer--- (see line 9).

f) Claim 9 recites "the lowest level " instead of ---a lowest level--- (see line 13).

g) Claim 9 recites "an other " instead of "another" (see line 24).

h) Claim 10 recites "adapted to " instead of ---configured to--- (see line 1).

i) Claim 11 recites "adapted to " instead of ---configured to--- (see lines 1).

j) Claim 16 recites "N integer " instead of ---N is an integer--- (see line 5).

k) Claim 16 recites "the lowest level " instead of ---a lowest level--- (see line 10).

l) Claim 16 recites "an other " instead of "another" (see line 21).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U. S. C 112

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

4.   Claims **1, 5, 9 and 16,** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) Claim 1 recites, the phrase "**that can process**" (see lines 8 and 15) is indefinite and   a positive term should be used

b) Claim 5 recites, the phrase "**that can process** the matrix" (see line 2) is indefinite and a positive term should be used.

c) Claim 9 recites, the phrase "**that can process**" (see lines 13 and 20) is indefinite and a positive term should be used.

d) Claim 16 recites, the phrase "**that can process**" (see lines 10 and 17) is indefinite and a positive term should be used.

e) As per claim 9, line **"the test"** does not have a clear antecedent basis.

Allowable subject matter

5.   Claims **1-16** would be allowable if rewritten to overcome the claim objections and rejection(s) under 35 U.S.C. 112, 2nd paragraph set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

6.   Claims **1, 9 and 16** have been allowed.

The following is an examiner's statement for allowance:

As per claims 1, 9 and 16:

The prior art (Henrikson Dana, U.S. PN: 6,324,670) of record teach a method and apparatus for generating a checksum that minimizes the creation and manipulation of carry bits by allowing a "running sum" to expand into a register having a larger capacity than the size of the message segments being processed. A checksum generator includes at least one adding circuit for processing a given message in segments and associated with the adding circuit is a register for temporarily holding the running sum that is being calculated by the adding circuit. A register is twice the size of the message segments being processed and is segregated into a high order portion and a low order portion (see col. 1, lines 60-67).

The prior art (Van Meter, III, Rodney, U.S. PN: 6,964,008) of record teach a method of generating checksum values for data segments retrieved from a data storage device for transfer into a buffer memory. The method includes the steps of maintaining a checksum list comprising a plurality of entries corresponding to the data segments stored in the buffer memory, each entry being for storing a checksum value for a corresponding data segment stored in the buffer memory (see col. 1, lines 54-67).

However, the prior arts taken singly or in combination fail to teach, anticipate, suggest, or render obvious a computer-readable medium having stored thereon a method and plurality of instructions, the plurality of instructions including instructions which, when executed by a processor, cause the processor to implement a method for calculating a checksum for a data block by reduction, the method comprising the steps

of: (a) partitioning the data block into N segments of a data matrix, N an integer greater than one; (b) comparing N to a number of segments processed by each of at least two reduction stages, the at least two reduction stages arranged in a tree structure; (c) If N is less than or equal to the number of segments processed by a highest level reduction stage, then: (1) processing the data matrix with the lowest level reduction stage that can process the entire data matrix to generate a new data matrix, and (2) repeating step (c)1 for each subsequent new data matrix until two data segments remain; otherwise, if N is greater than the number of segments processed by the highest-level reduction stage, then: (3) dividing the data matrix into one or more portions; (4) processing one matrix portion with the highest-level reduction stage that can process the matrix portion to generate a new data matrix, (5) repeating steps (c)(1) and (c)(2) for each subsequent new data matrix of the one matrix portion until two data segments corresponding to the one matrix portion remain, (6) appending another portion of the data matrix to the two data segments corresponding to the one matrix portion, and (7) repeating step (c) until no matrix portions remain; and(d) combining the remaining two data segments to provide a result. Consequently, claims 1, 8 and 16 are allowed over the prior art.

Claims **2-8,** which are directly or indirectly dependents of claim 1 are also allowed.

Claims **10-15,** which are directly or indirectly dependents of claim 9 are also allowed.

CONCLUSION

7.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

      US PN: 6,591,397   Henrikson, Dana M

      US PN: 6,968,498   Pal, Suprio

      US PN: 6,964,008   Van Meter, III, Rodney

      US PN: 6,643,821   Karim et al.

      US PN: 6,412,092   Raghunath, Balakrishna

      US PN: 6,324,670   Henrikson, Dana M.

8.   Any inquiry concerning this communication or earlier communication from the

examiner should be directed to Esaw Abraham whose telephone number is (571) 272-

3812. The examiner can normally be reached on M-F 8-5.

    If attempts to reach the examiner by telephone are successful, the examiner's

supervisor, Albert DeCady can be reached on (571) 272-3819. The fax phone numbers

for the organization where this application or proceeding is assigned are (571) 273-8300

for regular communications and (571) 273-8300 for after final communications.

    Information regarding the status of an Application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for published

applications may be obtained from either Private PAIR or PUBLIC PAIR. Status

information for unpublished applications is available through Private Pair only. For more

information about the PAIR system, see http://pair-direct.uspto.gov. Should you have

questions on access to the Private PAIR system, contact the Electronic Business

Center (EBC) at 866-217-9197 (toll-free).

Esaw Abraham

Esaw Abraham

Art unit: 2133

GUY LAMARRE
PRIMARY EXAMINER